1.9
P69P

LIBRARY RECEIVED
MAY 9 1928
U. S. Department of Agriculture

THE PLANT DISEASE REPORTER

ISSUED BY

THE OFFICE OF MYCOLOGY AND DISEASE SURVEY

Volume XII Number 1

May 15, 1928

BUREAU OF PLANT INDUSTRY

UNITED STATES DEPARTMENT OF AGRICULTURE

THE

PLANT DISEASE REPORTER

ISSUED BY

THE OFFICE OF MYCOLOGY AND DISEASE SURVEY

BUREAU OF

PLANT INDUSTRY

UNITED STATES DEPARTMENT OF AGRICULTURE

THE PLANT DISEASE REPORTER

Issued by

THE OFFICE OF MYCOLOGY AND DISEASE SURVEY

Volume XII May 15, 1928 Number 1

Commencing with this number, and continuing during the remainder of the season, it is the intention to issue The Plant Disease Reporter at intervals of two weeks, on the first and fifteenth of each month. It takes about three days from the time of starting to make up a number until the time it is actually in the mail, and so it is requested that contributors arrange to get their notes to us by the twelfth and twenty-seventh of each month. One of the very desirable elements in a publication of this kind is timeliness - the issuing of data as soon after collection as possible. By timing your reports to conform to these dates you can assist in this respect.

The success of the Reporter depends on the amount and quality of the material sent in. It is hoped that readers will continue to give it their support this year. R. J. H.

NOTES ON THE APPLE SCAB FUNGUS (VENTURIA INAEQUALIS)

Most of the following data have already been sent to collaborators in a special memorandum dated April 27. Since that time many things may have transpired to materially change the situation in some of the states. The information is repeated, however, even if it may not be the last word, as it will be news to some, it will serve as a record, and it may encourage the sending in of other notes. Readers are requested to send in apple scab data for the next number of this "Reporter". Notes should reach Washington by May 27 to be included.

Massachusetts: On April 26, I found mature ascospores discharging here. The bud stage was then early prepink. I advised county agents and farmers that the prepink spray should now be applied. Spores were found mature a week before this date. (Doran)

New York: There is at present time (April 30) an abundance of ripe perithecia in the apple leaves in the Hudson Valley. Ascospores were shot in Ulster County during the last three rains. A pre-blossom application should be applied in most of this area before the next rain period.

The condition of the scab fungus in western New York is less certain. At Ithaca on McIntosh over half of the perithecia examined April 29 contained mature ascospores. Leaves gathered under snow on April 29 shot a few spores when placed out doors during a light drizzle on that date.

Samples of scabby McIntosh leaves received from Monroe and Niagara Counties appeared less mature than those from the orchard at Ithaca. This may be due to the manner in which leaves were gathered since this season the leaves from near the soil and in damp locations are more mature than the loose upper leaves.

It appears extremely probable that infections will occur in western New York in the next rain period of sufficient length. This condition will make the timing of the delayed dormant spray in western New York very difficult. From the standpoint of scab control, susceptible varieties are now in danger without a spray while it appears to be a little early for control of the rosy aphis. (W. D. Mills, New York State Col. Agr. Depts. Pl. Path. & Entom. Weekly News Letter, April 30)

Pennsylvania: Ascospores shot at Media, Delaware County, and West Chester, Chester County, during the rain starting Wednesday afternoon April 11 and ending Thursday morning April 12. At Media only a very few spores were shot, while at West Chester there seemed to be a fairly heavy discharge. Examination of several hundred perithecia during the past week in the southeastern part of Pennsylvania showed that a few were nearly mature but that most of them contained ascospores that were just starting to cut out. Most of the early blooming varieties of apples are just in the delayed dormant stage. (Kirby, April 12)

Maryland: As was the case last year perithecia are very common being found on all leaves examined and in all parts of the state.

Spray recommendations (1) at Snowhill April 4, Salisbury April 5, and Southern Maryland, April 9 - Apply delayed dormant at once using lime-sulfur and not oil on scab susceptible varieties. (2) At Easton April 11 and Hancock April 12 - Apply prepink (lime-sulfur 1-40). (Jehle, April 13)

Virginia: Ascospore discharges occurred on April 23 and 24 but it was impossible to determine ascospore discharge after the snowstorm (April 27 and 28) because slides and leaves were washed away. (Schneiderhan, May 6)

West Virginia: First mature ascospores found on crab leaves. To date I have been unable to find mature spores on apple leaves. Have been examining leaves since the first of April. Find plenty of asci, with spores in various stages of differentiation, but none mature enough to discharge. This situation is somewhat unusual at this stage of development of trees which are now about ready for early pink spray.

Recommendations are for the regular pink spray only. It begins to appear as though in this section we will have no spore discharges of any consequence until relatively late in the season. (Sherwood, April 20)

Since sending in my report last week regarding condition of apple scab spore development, we have had three days of almost continuous rainy weather. Spore discharges occurred under natural conditions during this period, although not as heavy as might be expected. Trees were ready for a rather early pink spray. Spraying in general was started yesterday and today.

Material from leaves which discharged spores most abundantly was sectioned and examined carefully. It was found that spores had been discharged from but one or two of the asci in a perithecium - the rest containing material in various stages of development, from those containing spores almost mature to very immature asci. By far the greater number of perithecia on the leaves are still immature. This appears to indicate we are likely to have our heaviest spore discharges rather later in the stage of development of the trees than is usual in this section - not until after the blooming period. This may be due to the rather dry winter weather and very light snow covering. (Sherwood, April 25)

Tennessee: At time of first discharge only the most advanced trees were in true delayed dormant stage. The rain was slight and soon cleared. The first significant discharge was about the 14th but the heaviest was from the 19th to 22nd. Some varieties were full pink at the time of the first discharge, others barely prepink. A spray applied from April 10 to 18 and preceding anticipated rains depending on the variety should give protection. In the case of Winesaps and other early bloomers it was the

equivalent of a pink bud. In the Rome Beauty type it was a prepink when applied during that period. (J. O. Andes, April 24)

Ohio: The apple scab fungus is developing very irregularly throughout the state. With favorable weather there will be spore shooting spasmodically throughout pre-blossom period. Advise fungicide in delayed dormant and keep trees covered through to bloom. (H. C. Young, April 20)

Michigan: The development of the apple scab fungus in Michigan has been very unusual this year. The first ripe ascospores were found at East Lansing, March 20. Moisture and temperature conditions were favorable for rapid ripening of spores March 24, 25, and 26. The first spore discharge is recorded for March 26. It is estimated that 85 per cent of the spores were mature by April 3 when a light rain produced the second spore discharge. Rains April 5, 6, and 7 caused the discharge of nearly all of the spores in the College orchard at East Lansing. At this time the apple buds were just beginning to swell.

In Berrien and Van Buren Counties in the southwestern part of the state spores did not ripen so early as at Lansing in the orchards which have been under observation. In this section it is estimated that not more than 10 per cent of the spores have been discharged up to this time. In the southern half of the state nearly all of the spores are now ripe and ready to be discharged. We are expecting a heavy spore discharge the next rainy period. In the extreme southern part of the state most apple buds are now slightly past the green tip stage. King buds have leaves half an inch long and the earliest of the Spy buds are just beginning to show the green tips of leaves. (Bennett, April 21)

Wisconsin: At Madison, April 19, the majority of the asci were just appearing but a very few were found which were almost mature size and one or two had begun to delimit ascospores. Susceptible host tissue was exposed only in certain crabs. (E. E. Wilson, April 19)

At Sturgeon Bay, April 24, first observation on this date showed that 38 per cent of perithecia contained from 1 to 40 per cent of asci with mature ascospores.

Delayed dormant spray on early varieties May 3 and 4 and on later varieties on May 6 to 8. Prepink should be applied May 11 to 13.

Four light discharges have been recorded on April 30 and May 3, 4, and 5. (E. E. Wilson, May 11)

APPLE SCAB, 1928. TIME OF MATURITY AND DISCHARGE OF ASCOSPORES.

State Reporter Date Locality	Differentiation of asci	Stage of host	First Mature ascospores	Stage of host	Time of first ascospore discharge	Duration of rainy period during first discharge	Stage of host
Maryland							
(Jehle 4/13)				Buds swelling			Early delayed
Snow Hill	-	-	April 4	No green tips	April 10	April 10-12	dormant.
Salisbury	April 5	Delayed dormant. Green tips.	-	-	-	-	-
Southern Maryland	-	-	April 9	-	-	-	-
Easton	April 11	Considerable green at tips.	-	-	-	-	-
Hancock	April 12	"	-	-	-	-	-
Pennsylvania							
(Kirby 4/12)							
Media	-	-	-	-	April 11	April 11-12	-
West Chester					April 11	April 11-12	-
Virginia							
(Schneiderhan 4/23)							
Winchester	-	-	-	-	April 22	-	-
West Virginia							
(Sherwood 4/20)			(a)	Buds first			
Inwood	-	-	April 3	showing green			

State Reporter Date Locality	Differentiation of asci	Stage of host	First mature ascospores	Stage of host	Time of first ascospore discharge	Duration of rainy period during first discharge	Stage of host
Ohio (Young 4/20)							
Coolville	March 15	Dormant	March 25	Dormant	April 4	Showers	Delayed dormant
Cincinnati	March 15	"	March 25	"	April 14	"	"
Delaware	March 15	"	March 25	"	April 14	"	"
Wooster	March 15	"	March 25	"	April 20	"	Dormant
Chardon	March 25	"	April 10	"	April 20	"	"
Michigan (Bennett 4/21)							
East Lansing	March 7	Dormant	March 20	Dormant	March 26	12 hours (b)	Dormant
St. Joseph	-	-	March 23	Dormant	April 5	April 5,6,7 (b)	Buds swelling
S. Haven	-	-	March 23	Dormant	April 5	April 5,6,7	" "
Wisconsin (Wilson 4/19)	(c)					Leaves wet from melting snow	Buds scales beginning to separate (d)
Madison	February 7	Dormant	April 3	Dormant	April 17		
Tennessee (Andes 4/24)				Delayed			Delayed
Clarksville	-	-	April6	dormant	April 7 April 14	15" rainfall 1.35" "	dormant "

Foot notes:

(a) Or crab leaves

(b) Dates of first known discharge.

(c) Or this date the majority of asci were just appearing but a ver few were found which were of almost mature size and one or two had begun to delimit ascospores.

(d) Susceptible host tissue exposed only in certain crabs.

FIRE BLIGHT (BACILLUS AMYLOVORUS) ON PEAR FRUIT IN NORTH CAROLINA

"Noted on young fruit on April 26, slightly after the petal fall stage. Some apple trees were still in bloom. In most instances the fruit and upper half of blossom pedicels were affected." (Fant, May 3)

ROOT KNOT NEMATODE (CACONEMA RADICICOLA) ON STRAWBERRY

Specimens of strawberry plants infested with Caconema radicicola were received from Kansas in the Office of Nematology and Technology of the Bureau of Plant Industry. J. G. Brown reports that it was observed in a two-acre patch near Tucson, Arizona, in February.

NOTE ON THE EXPERIMENTAL INOCULATION OF AVOCADO SEEDLINGS WITH THE PEAR BLIGHT ORGANISM, BACILLUS AMYLOVORUS (BURR.) TREV.

W. T. Horne of the University of California has sent the following account:

"During the past autumn the question was raised as to whether the avocado, Persea americana Miller and P. drymifolia C. & S., is susceptible to the pear blight disease. Seedlings in the University greenhouse were inoculated without result. On December 12, 1927, these inoculations were repeated in the actively growing tips of four plants using the same strain of bacteria. On March 5, 1928 the inoculations were repeated using the same plants and the succulent growth of a potted Bartlett pear tree which had been recently brought into the greenhouse and heavily cut back giving rise to several succulent shoots. This time two strains of bacteria were used, the one employed before coming from pears at Yuba City and isolated during the summer, and the second from pears at Walnut Creek, isolated in October, 1927. In the pear all inoculations were successful giving typical and extensive lesions. In the avocados, oxidation about the needle pricks was slight, and in no case was there any development of pear-blight like lesions. The avocados were probably seedlings of Guatemalan type, though there may have been some of hybrid origin as part have a very obscure anise odor in the foliage. Conditions in the green-

house were favorable for pear blight development and while growth of the avocados was not as vigorous as on strong plants in the open, the tissue inoculated was succulent and in active growth."

CEREAL DISEASES REPORTED FROM CALIFORNIA

W. W. Mackie has made the following report under date of March 28:

"I have recently made a limited disease survey in certain portions of the Sacramento Valley and the San Joaquin Valley. You may be interested to know that barley scald (Rhynchosporium) is making a more serious attack than usual. In many fields inspected no single plant appears to have escaped attack. This disease appeared much earlier this year than usual. This is somewhat unusual, for in dry winters we expect a reduction in disease. Net blotch (Helminthosporium teres) and mildew are very prevalent in all barley fields. The California Mariout appears to be particularly susceptible to mildew. Spot blotch (H. sativum) is apparently very scarce at this time, but stripe disease (H. gramineum) is in evidence and sporulating in distinct black stripes on early sown barley. Septoria is again very prevalent on early sown wheat, the pycnidia already dotting the lesions. In the plots at Davis, my test for leaf rust of barley (Puccinia anomala) is giving a hundred per cent attack, indicating that this disease may appear in the barley fields this season.

"The present heavy rain storms may cause an excessive amount of disease attack on cereals during the present spring."

SEPTORIA ON WHEAT IN NORTH CAROLINA

"Specimens of Septoria leaf blotch of wheat have been received from Guildford and Davidson Counties. This disease is rather common this year which possibly is due to severe winter freezes which injured wheat and destroyed a large percentage of the fall oat plantings." (Fant, May 3)

BEAN DISEASES

During a trip to Florida March 21 to April 12, L. L. Harter made observations on bean anthracnose and blight which he reported as follows in the V. & F. Pathologist of the Office of Vegetable and Forage Diseases:

(Fort Pierce, Winter Beach, Stuart, Jensen).
"Anthracnose was present in some fields and entirely absent in others close by, which would seem to indicate that the source of seed may be the explanation of the difference."

"With the approach of warm weather blight became more prevalent and could be found in practically all the fields in an incipient stage, if not already quite advanced. There was very little blight on the pods. Some confusion prevailed in the accurate diagnosis of some specimens - the difference between the true blight (caused by Bacterium phaseoli) and the halo blight on which Miss Florence Hedges has been working for some time."

A specimen of anthracnose was sent May 1 from Thomasville, Georgia, by O. C. Boyd, who stated that the disease had caused about 5 per cent reduction in stand, and would cause further loss, in a ten-acre field of "Bountiful" beans.

YELLOWS OF CALENDULA IN VIRGINIA

F. P. McWhorter of the Virginia Truck Experiment Station at Norfolk reports the occurrence of aster yellows on calendula plants in hotbeds. The diagnosis was confirmed by L. O. Kunkel.

EUROPEAN LARCH CANKER (DASYCYPHA CALYCINA) IN RHODE ISLAND

The following quotation is from a statement by J. F. Martin in the Blister Rust News of the Office of Blister Rust Control, March 9:

"The Office of Forest Pathology, Bureau of Plant Industry, reports the locating of a new outbreak of the European larch canker on planted Douglas fir in the Goddard Memorial Park near East Greenwich, Rhode Island. The trees are about 35 years old and severely damaged by the disease. The cankers are so numerous on the trunks as to give them a beaded appearance. Also there are a large number of cankers on the branches. Many of the branches have been killed and in some cases only a few at the top of the trees are still alive. While there are not so many trees infected as on the Ipswich area in Massachusetts, the trees are larger and the damage caused by the disease more striking."

SOME SPECIMENS RECEIVED

FRUIT DISEASES:

Septobasidium pseudopedicellatum on pecan, Mississippi, D. C. Neal, Jan. 10.

Sphaceloma ampelinum on scions of Concord grape, Richmond, Virginia, W. A. Haynes, received Jan. 12, 1928.

VEGETABLE AND FIELD CROP DISEASES:

Ascochyta sp. on Austrian winter pea, Mississippi, D. C. Neal, received April 2, 1928.

Bacterium malvacearum on cotton stems, Mississippi, received from D. C. Neal, Mar. 8, 1928. Det. W. W. Gilbert.

Caconema radicicola on horseradish, Mississippi, H. H. Wedgworth, April 9. Det. N. A. Cobb.

Colletotrichum falcatum on sugar cane, Mississippi, D. C. Neal, Oct. 9, 1927. Det. G. B. Satoris.

Macrosporium sp. on escarole, New York, E. R. Niehaus, Mar. 28. Det. Charles Drechsler.

Pythium debaryanum and P. ultimum causing damping-off of tomato, Maryland, F. S. Goodman, Apr. 21. Det. Charles Drechsler.

Streak (virus) of tomato, New York. Det. F. J. Pritchard.

ORNAMENTALS, TREES, AND MISCELLANEOUS HOSTS:

Caconema radicicola, determined by N. A. Cobb or G. E. Steiner, a number of specimens on various hosts, including:

Chrysanthemum, greenhouse, De Witt, Iowa, Feb. 8. Heavy infestation.

Clematis integrifolia, Bell, Maryland, Foreign Plant Introduction Station, Roland McKee, Feb. 21. Heavily infested.

Dahlia, Georgia, O. C. Boyd, Mar. 26.

Ligustrum lucidum, Winston-Salem, North Carolina, Apr. 24.

Nandina domestica, Winston-Salem, North Carolina, Mar. 24.

Dothiorella ribis on Salix sp., Greenwood, Mississippi, D. W. Grimes, Mar. 19. Perfect stage present. Det. M. S. Wilcox.

Gymnosporangium germinale on Juniperus virginiana, Barnegat City, Ocean County, New Jersey, J. H. Frick, received Apr. 25. Det. G. G. Hedgcock.

Tylenchus dipsaci on Primula obconica, Willow Grove, Pennsylvania, Feb. 28